



## Contrast techniques – transmitted polarised light

The RMS book on contrast techniques includes polarised light techniques. It can be very simple to convert a microscope to one allowing this technique. This simple Russian microscope has small piece of polaroid sheet cut to shape and put in a convenient small recess in the top of the lens mount. The simple LED light source fitting below the stage has a nice flat surface so a sheet of polarising film can be supported on it. This simple arrangement means the film can be easily removed and can be rotated to give parallel polarised light, partial crossed polarised light and fully crossed polars.

In the recently printed Club leaflet on Polarised Light Techniques, there are a variety of examples of contrast showing detail in different specimens including plant and animal sources. Today I have brought along a couple of specimens of slightly more unusual material to show how contrast enhancement by this technique provides information which can be used to interpret the shape or type of the components.

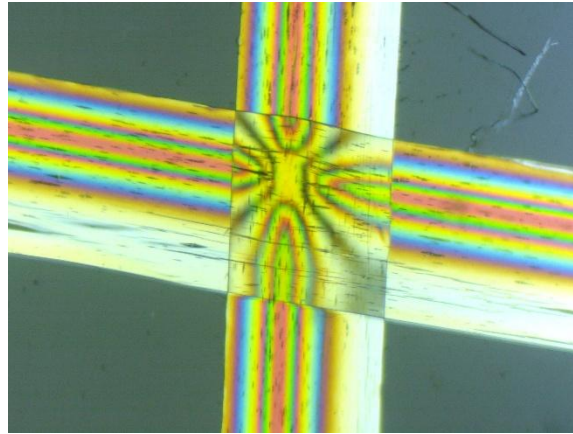
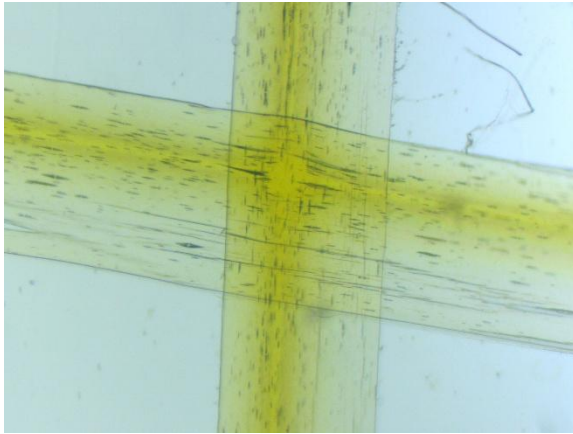
### The electrostatic duster

This is a wand with yellow fibres used to dust cobwebs from high places. A couple of the fibres have been mounted to show the shapes. On the left the fibres appear to be flat ribbons with some variation in dye colour and some small inclusions. On the right in crossed polars the polarisation colours show the variation across the fibre due to a difference in thickness.

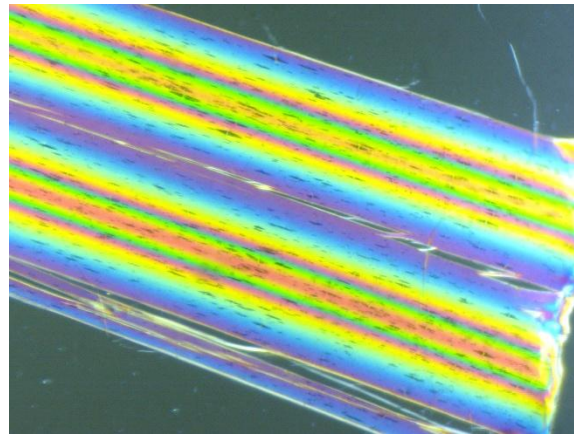
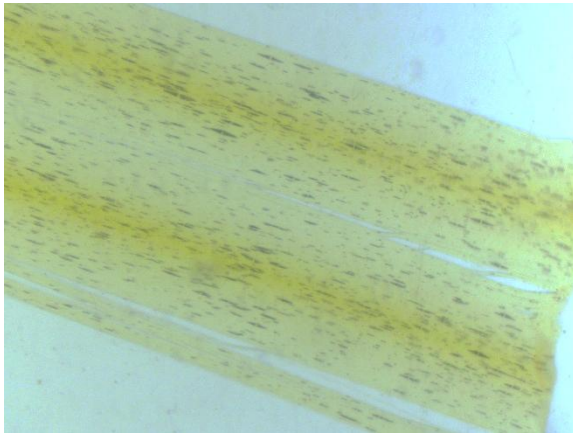
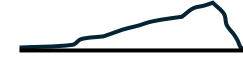
### Tea bags

Small parts of two different tea bags are mounted. One shows a mass of fibres, flat ribbons with polarisation colours typical of paper fibres. The other is a very distinctive mesh of plastic fibres.

## Electrostatic duster



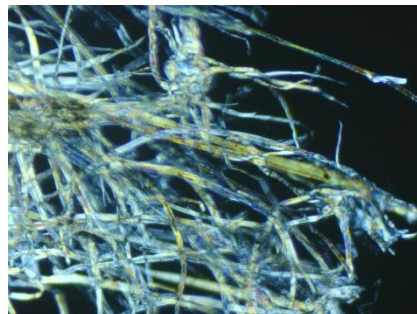
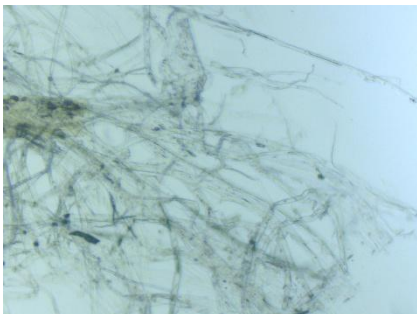
The differences in the polarisation colours show that the edge of the fibre is thinnest then the thickness rises slowly and then thins quickly.



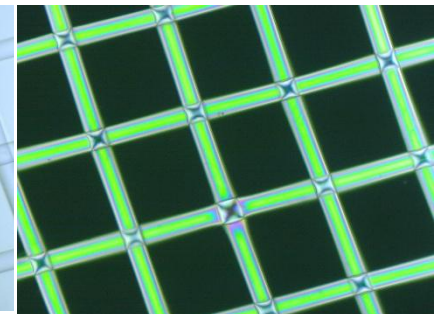
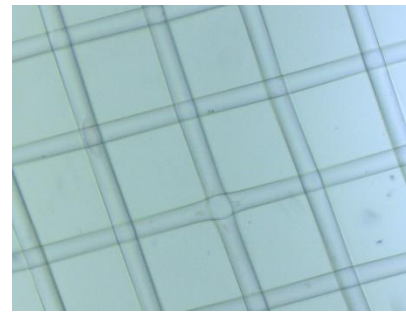
A different fibre mounted shows a different shape, in this case two areas of thicker material.



## Tea Bags



Compostable



Not compostable